

CLAIMS

What is claimed is:

1. (currently amended) An airflow shroud for a moving-slider-type microactuator coupled with a flexure and a suspension load beam, comprising:
a frame portion having opening suitable for exposing an air bearing surface of a slider for a disk drive, the frame portion surrounding the slider and a moving-slider-type microactuator coupled to the slider; and
an attachment portion adapted for attachment to a with said suspension load beam of a disk drive wherein said frame portion is configured to not surround said suspension load beam.
2. (Original) The airflow shroud according to claim 1, wherein the frame portion has side portions forming the opening and a tapered shape between each side portion and the opening.
3. (Original) The airflow shroud according to claim 1, wherein between about 50 to 100 micrometers of the slider are exposed through the opening of the frame portion
4. (currently amended) An airflow shroud for a moving-head-type microactuator, comprising:
A a plate portion attachable to a slider having a movable-head-type microactuator, said microactuator coupable with a flexure and a load beam; and a recessed portion corresponding to the moving-head-type microactuator of the slider wherein said load beam is not surrounded by said airflow shroud.

5. (currently amended) A disk drive comprising an airflow shroud for a moving-slider-type microactuator coupled with a flexure and a suspension load beam, the airflow shroud including a frame portion having an opening suitable for exposing an air bearing surface of a slider for the disk drive, the frame portion surrounding the slider and a moving-slider-type microactuator coupled to the slider and an attachment portion adapted for attachment to a said suspension load beam of the disk drive wherein said airflow shroud does not surround said suspension load beam.

6. (Original) The disk drive according to claim 5 wherein the frame portion has side portions forming the opening and a tapered shape between each side portion and the opening.

7. (Original) The disk drive according to claim 5, wherein between about 50 to 100 micrometers of the slider are exposed through the opening of the frame portion.

8. (currently amended) A disk drive comprising an airflow shroud for a moving-head-type microactuator coupled with a flexure and a suspension load beam, the airflow shroud including a plate portion attachable to a slider having a moving-head-type microactuator, and a recessed portion corresponding to the moving-head-type microactuator of the slider wherein said airflow shroud does not surround said suspension load beam.

REMARKS

Applicants respectfully request further examination and reconsideration in view of the above Claims. Claims 1-8 remain pending in the case. Claims 1, 4, 5 and 8 have been amended. Claims 1-8 are rejected. No new matter has been added.

REJECTIONS

35 U.S.C. 103(a)

Claims 1, 3, 5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over United States Patent Number 4,473,855 to Plotto et al., hereinafter referred to as "Plotto", in view of United States Patent Number 6,396,667 to Zhang et al., hereinafter referred to as "Zhang". Applicants have reviewed the cited references and respectfully submit that the embodiments of the present invention as recited in Claims 1-8 are not rendered unpatentable over Plotto in view of Zhang for the following rational.

Claims 1 and 5

Applicants respectfully direct the Examiner to independent Claim 1 that recites, in part, that an embodiment of the present invention contains (emphasis added):

an attachment portion adapted for attachment with said
suspension load beam of a disk drive wherein said frame
portion is configured to not surround said suspension load
beam.

Claim 5 recites similar limitations as independent Claim 1.

Applicants have amended Independent Claims 1 and 5 to include the feature "wherein said frame portion is configured to not surround said suspension load beam." With the present invention, the airflow shroud is attached to the suspension load beam for surrounding the slider without surrounding the suspension load beam," as claimed.

This is very different from Plotto because Plotto clearly shows the airflow shroud surrounding the suspension. With Plotto, the surround is designed to deflect airflow around the suspension which is very different from the claimed features of Independent Claims 1 and 5.

Particularly, Plotto in column 8, lines 10-12 states “for modifying the flow of air around the principal member and the suspension device of the corresponding platforms.”

To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). (MPEP 2143.03).

Applicants submit that Plotto fails to teach or suggest “wherein said frame portion is configured to not surround said suspension load beam.” With the present invention, the airflow shroud is attached to the suspension load beam for surrounding the slider without surrounding the suspension load beam,” as claimed.

Plotto and the claimed invention contain an important difference. Applicants understand Plotto to purport to teach a system which includes magnet transducer platforms with protecting fairings. However, Applicants understand Plotto to teach a system in which the protective fairing device surrounds the suspension device and does not attach to it as claimed. Particularly, Applicants respectfully assert that Plotto fails to teach or suggest “an attachment portion adapted for attachment to a suspension of a disk drive,” (emphasis added) as claimed.

Moreover, the combination of Plotto and Zhang fails to teach or suggest this claim limitation because Zhang does not remedy the deficiencies of Plotto. Applicants understand Zhang to purport to teach an electromagnetic disc drive microactuator and suspension in which a protective fairing is neither taught nor suggested. Therefore, Applicants respectfully assert that Zhang fails to teach or suggest “an attachment portion adapted for attachment to a suspension of a disk drive,” (emphasis added) as claimed.

Applicants respectfully assert that nowhere do the teachings of Plotto and Zhang alone or in combination, teach or suggest, “an attachment portion adapted for attachment

with said suspension load beam of a disk drive wherein said frame portion is configured to not surround said suspension load beam,” (emphasis added) as recited in independent Claims 1 and 5 and that these claims overcomes the rejection under 35 U.S.C. 103(a), and are thus in condition for allowance. Claims 3 and 7 depend from independent Claims 1 and 5, respectively, which recite features not taught or suggested by Plotto, alone or in combination with Zhang. Applicants submit that these claims overcomes the rejection under 35 U.S.C. 103(a), and are thus in condition for allowance.

Claims 2 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Plotto in view of Zhang as applied to claims 1 and 5 above, and further in view of Severson (U.S. 5,549,365 B1). The rejection is respectfully traversed for the following rational.

As stated above, Applicants do not understand Plotto alone or in combination with Zhang to teach the claimed feature “an attachment portion adapted for attachment with said suspension load beam of a disk drive wherein said frame portion is configured to not surround said suspension load beam.” Applicants submit that Severson fails to remedy the deficiencies of Plotto, alone or in combination with Zhang.

To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). (MPEP 2143.03).

Applicants have reviewed Severson and do not understand Severson to teach or suggest “an attachment portion adapted for attachment with said suspension load beam of a disk drive wherein said frame portion is configured to not surround said suspension load beam,” as claimed. In fact, the airflow control device of Severson teaches away from the claimed embodiment of the invention because it “is placed upstream from the head and forms a channel within which the head moves across the disk” (abstract). The airflow control device of Severson does not teach or suggest “an attachment portion

adapted for attachment with said suspension load beam of a disk drive wherein said frame portion is configured to not surround said suspension load beam,” as claimed. As such, Claims 2 and 6 are patentable over Plotto in view of Zhang and Severson and are in condition for allowance.

Claims 4 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kosikawa (JP 01-158605) in view of Mei (U.S. 6,611,399 B1). The rejection is respectfully traversed for the following rational.

Kosikawa is cited as teaching an airflow shroud. However, Applicants understand Kosikawa to teach a magnetic flux shroud (translated abstract). An airflow shroud is very different from a magnetic flux shroud. Furthermore, Applicants submit that Kosikawa fails to teach or suggest “an attachment portion adapted for attachment with said suspension load beam of a disk drive wherein said frame portion is configured to not surround said suspension load beam,” as claimed.

Mei fails to remedy the deficiencies of Kosikawa because Mei also fails to teach or suggest “an attachment portion adapted for attachment with said suspension load beam of a disk drive wherein said frame portion is configured to not surround said suspension load beam,” as claimed.

For this rational, Claims 4 and 8 are patentable over Kosikawa in view of Mei because Kosikawa alone or in combination with Mei fail to teach or suggest the claimed embodiments of the present invention.